

Harold N. Moldenke

AEGIPHILA STEYERMARKII var. *MACROPHYLLA* Moldenke, *Résumé* 70 & 441, nom. nud. 1959; var. nov.

Haec varietas a forma typica speciei foliis majoribus usque ad 18 cm. longis et 8 cm. latis recedit.

This variety differs from the typical form of the species in having much larger leaves, the petioles 1.2--2 cm. long, the blades 10--16 cm. long and 4.7--8 cm. wide.

The type of the variety was collected by Julian Alfred Steyermark (no. 74964) in a *Bonnetia* forest on the northwestern part of the summit of Abácapa-tepui, Chimantá Massif, Bolívar, Venezuela, at an altitude of 2125--2300 meters, on April 13, 1953, and is deposited in the H. N. Moldenke Herbarium at Yonkers, New York. The collector describes it as a tree 30 feet tall, the leaves subcoriaceous, dark-green above, and dull paler beneath. He identified it as a species of *Citharexylum*.

ERIOCAULON STELLULATUM var. *LAOSENSE* Moldenke, var. nov.

Haec varietas a forma typica speciei recedit foliis brevioribus fenestratis, pedunculis bisulcatis brevioribus glabris, et vaginis fenestratis.

This variety differs from the typical form of the species very notably in its shorter leaves, which are only 1 cm. long and 1 mm. wide and are very plainly fenestrate, its peduncles being only 2-sulcate and 2-costate, glabrous throughout, and only 3.5--8 cm. long, and the sheaths being very thin-membranous and plainly fenestrate.

The type of this variety was collected by Eugène Poilane (no. 28225 bis) at Sêbangphay, in the province of Savannakhet, Laos, Indochina, on October 21, 1938, and is deposited in the herbarium of the Montreal Botanical Garden in Montreal, Quebec.

PAEPALANTHUS BRADEI Moldenke, sp. nov.

Herba perennis caulescens; caulibus elongatis tenuibus dense foliosis; foliis graminoidis membranaceis 16--20 cm. longis, medio 8--9 mm. latis, attenuatis utrinque glabris; pedunculis numerosis 15--23 cm. longis tenuissimis 3-costatis glabris stramineis; capitibus simplicibus hemisphaericis brunneis ca. 7 mm. latis.

Perennial caulescent herb; stem conspicuous, slender, about 9 cm. long and 7 mm. wide, plainly many-annulate, apparently glabrous; leaves very numerous, the lower ones deciduous, leaving conspicuous annulations on the stem, bright-green on both surfaces, not shiny, grass-like, thin-membranous, 16--20 cm. long, 8--9 mm. wide at the middle, gradually attenuate to the sharply acute apex, glabrous on both surfaces, many-nerved, but the ner-

ves mostly indiscernible on both surfaces, not at all fenestrate; peduncles numerous, about 23 per plant, equaling or slightly surpassing the leaves, very slender, stramineous, 15--23 cm. long, rather indistinctly 3-costate, glabrous throughout; sheath closely appressed, 4--5 cm. long, oblique at the apex, not plainly striate, not twisted, glabrous; heads simple, hemispheric, brownish, about 7 mm. wide; involucrel bractlets dark-brown, triangular-ovate, about 1.8 mm. long and wide, with somewhat convex sides, acute at the apex, densely short-ciliate on the margins, otherwise glabrous; receptacle long-pilose; receptacular bractlets broadly spatulate, brown, about 2 mm. long and 1.6 mm. wide, rounded-truncate at the apex, densely white-barbate-ciliate at the apex; staminate florets: sepals 3, brown, oblanceolate, about 1.6 mm. long and 0.5 mm. wide, subacute and densely white-barbelate at the apex; petals 3, connate into a slender stramineous tube about 1.3 mm. long, glabrous; stamens 3; pistillate florets not seen.

The type of this species was collected by J. Santos Lima and Alexandre Curt Brade (no. 14198) in "aquas paradis" at Santa Maria Magdalena, at an altitude of 900 meters, Rio de Janeiro, Brazil, on March 5, 1935; it is no. 25419 in the herbarium of the Jardim Botânico at Rio de Janeiro and is deposited in the herbarium of the Botanisches Museum at Berlin.

PAEPALANTHUS DENNISI Moldenke

My good friend, N. Y. Sandwith, has kindly pointed out to me that an obvious error occurs in the original write-up of this species in *Phytologia* 7: 88--89 (1959). The type specimen is actually deposited in the herbarium of the Royal Botanic Gardens at Kew, England.

PAEPALANTHUS YUCCA Ruhl., sp. nov.

Herba perennis caulescens; caulibus elongatis dense foliosis; foliis yucciformibus ca. 15 cm. longis, medio 1 cm. latis, utrinque glabris nitidisque acutissimis; pedunculis paucis ca. 45 cm. longis stramineis glabris; capitibus multicapitulatis subglobosis ca. 1 cm. latis albidis.

Perennial herb, conspicuously caulescent; stem about 15 cm. long and 7 mm. wide, plainly many-annulate, brownish, sparsely pilose, more densely so on the upper face of each annulation with whitish appressed hairs, densely foliose, the leaves borne in Yucca-like fashion; leaves numerous, the lower ones deciduous, leaving transverse annulations on the stem, lanceolate, glistening-shiny on both surfaces, 12--15 cm. long, about 1 cm. wide at the middle, glabrous on both surfaces, gradually attenuate to the very acute apex, multi-striate with very slender and inconspicuous veins, the cross-venation visible only under a hand-lens; peduncles apparently few, about 3 per plant, borne at or near the apex of the stem, erect, about 45 cm. long, many-costate with rather inconspicuous ribs, dark-stramineous, very shiny, completely glabrous toward the base, but increasingly whitish-

pilose toward the apex, the hairs somewhat spreading; sheath rather narrow, about 10 cm. long, glabrous, not striate, not twisted, truncate at the apex; heads subglobose, about 1 cm. wide, whitish, composed of about 25 headlets; involucreal bractlets elliptic, brown, about 1.6 mm. long and 1 mm. wide, long-pilose at and near the apex with club-shaped, granulose, gray hairs; receptacle pilose; receptacular bractlets linear-oblong, dark-brown, about 1.7 mm. long and 0.4 mm. wide, acute and densely barbulate at the apex; staminate florets: sepals 3, elliptic, dark-brown, about 1 mm. long and 0.4 mm. wide, abruptly acute and barbellate at the apex, 1-nerved, united at the base; petals 3, light-flaviddous; anthers whitish or yellowish to brownish; pistillate florets: sepals 3, dark-brown, elliptic, about 1.7 mm. long and 0.7 mm. wide, acute and barbellate at the apex, less distinctly nerved, united at the base; petals light-brown, obovate, about 1.5 mm. long and 0.7 mm. wide, abruptly acuminate and barbellate at the apex; pistil 3-carpellary; ovary subglobose, glabrous, 3-sulcate, 3-celled; stigmas 3, club-shaped, papillose; style-appendages much elongate, each bilobed with 2 long-filiform branches.

The type of this distinctive species was collected by George Gardner (no. 5269) in Minas Gerais, Brazil, in 1842, and is deposited in the herbarium of the Botanisches Museum at Berlin. Ruhland apparently studied this plant carefully, made elaborate notes about it, and named it, but failed to validate the name by formal publication. It is therefore published in his behalf here.

SYNGONANTHUS ALLENI var. *BRASILIENSIS* Moldenke, var. nov.

Haec varietas a forma typica speciei recedit pedunculis uniformibus numerosissimis ca. 1 cm. longis et caulibus 2.5--3.5 cm. longis.

This variety differs from the typical form of the species in having its stems only 2.5--3.5 cm. long, issuing from a dense mass of glistening-white hair, and the peduncles only about 1 cm. long and all very uniform in length so as to cause the heads to form a very dense hemispheric mass.

The type of this handsome variety was collected by Walter Alberto Egler (no. 968) and Raimondo at Missão Velha on the Rio Cururú, Alto Tapajós, Pará, Brazil, on July 19, 1959; it is no. 23628 in the herbarium of the Museo Goeldi at Belém and is deposited in the H. N. Moldenke herbarium at Yonkers, New York.

SYNGONANTHUS EGLERI Moldenke, sp. nov.

Herba perennis caulescens; caulibus gracilibus nudis complantatis pilosulis, ad apicem umbellis foliorum pedunculorum portandis; pedunculis numerosissimis stramineis 15--45 cm. longis minute pilosulis; capitibus hemisphaericis argenteis.

Perennial caulescent herb; basal leaves few, grass-like, thin-membranous, 17--25 cm. long, 8--11 mm. wide at the middle, glabrous on both surfaces, soon disappearing; stem slender, stiff, 4--6 cm. long, leafless, flattened, rather densely whitish-strigillose, bearing a large whorl of leaves and peduncles at

its apex; stem-leaves numerous, membranous, grass-like, irregular in size, 2.5—9 cm. long, 3—5 mm. wide, glabrous and very shiny on both surfaces, attenuate-acute at the apex; peduncles very numerous, about 25 per whorl, erect, stramineous, many-striate, 15—45 cm. long, minutely pilosulous, glabrescent in age; sheaths rather loose, 5—6 cm. long, not plainly striate, not twisted, pilosulous throughout, oblique at the apex, the blade erect and sharply acute; heads hemispheric, silvery-white; involucreal bractlets whitish, narrowly oblanceolate, about 3.1 mm. long and 1 mm. wide, sharply acute at the apex, glabrous and shiny; receptacle long-pilose; receptacular bractlets narrowly oblong or lanceolate, about 1.6 mm. long and 0.1 mm. wide, sharply attenuate-acute at the apex, long-ciliate along the margins, especially above the middle; staminate florets: sepals 3, whitish, connate only at the base, broadly elliptic, about 2.6 mm. long and 0.6 mm. wide, long-acuminate at the apex and narrowed to the base, long-pilose at the base, otherwise glabrous; petals 3, connate into an infundibular whitish tube about 2 mm. long; pistillate florets: sepals 3, separate, narrowly elliptic, whitish, about 2.5 mm. long and 0.3 mm. wide, attenuate-acute at the apex, long-pilose at the base, otherwise glabrous; petals 3, connate at the middle, white, spatulate, about 1.6 mm. long and 0.5 mm. wide, obtuse at the apex, long-pilose at the base, otherwise glabrous; style short, stramineous, about 0.3 mm. long, glabrous; ovary globose, stramineous, about 0.8 mm. long and wide, glabrous, 3-sulcate, 3-celled, 3-ovulate.

The type of this species was collected by Walter Alberto Egler (no. 818) and Raimundo on a campo at Missão Nove, on the Rio Cururú, Alto Tapajós, Pará, Brazil, on July 12, 1959; it is no. 23634 in the herbarium of the Museu Goeldi at Belém and is deposited in the H. N. Moldenke herbarium at Yonkers, New York.

PAEPALANTHUS ARISTATUS Moldenke, sp. nov.

Herba perennis parva caulescens; caulibus 2—6 cm. longis dense foliosis; foliis linearibus subrigidis usque ad 1 cm. longis, ad basin valde ampliatis et ciliolatis ceterim glabris; pedunculis solitariis 1—2 cm. longis dense puberulis; capitibus hemisphaericis albis 4—5 mm. latis.

Small perennial caulescent herb, forming dense tufts; stems simple or few-furcate, 2—6 cm. long, densely foliose, erect; leaves linear except for the widely ampliate base, rather firmly rigid, ascending, 5—10 mm. long, about 0.5 mm. wide, blunt at the apex, glabrous except for the ciliolate widened base; peduncles solitary, one per branch near its apex, 1—2 cm. long, not plainly costate or striate, densely puberulent throughout; sheaths closely appressed, 8—10 mm. long, puberulent throughout, oblique at the apex, the blade lanceolate, long-acuminate, ciliate; heads hemispheric, white, 4—5 mm. wide; outer involucreal bractlets pale-stramineous, elliptic, about 2.3 mm. long and 0.8 mm. wide, aristate-acuminate for about 0.8 mm. of its length, glabrous, the inner ones similar in all respects but somewhat oblanceolate and about 1 mm. wide; receptacle long-pilose; recep-

tacular bractlets pale-stramineous, obovate, about 2 mm. long and 1 mm. wide, long-acuminate at the apex, long-ciliate from the widest part to the apex, otherwise glabrous; staminate florets: sepals 3, pale-stramineous, spatulate, about 1.1 mm. long and 0.3 mm. wide, densely pilose on the back and long-barbate at the rounded apex, united only at the base; petals 3, connate into a stramineous tube about 1.6 mm. long, the free portion short and erect; stamens 3; pistillate florets: sepals 3, white, separate to the base, oblong, about 1.6 mm. long and 0.3 mm. wide, densely white-barbate at the apex, otherwise glabrous; petals 3, exactly similar to the sepals, separate to the base; style stramineous, about 1 mm. long, glabrous; ovary subglobose, stramineous, about 0.6 mm. long and wide, 3-sulcate, 3-celled, 3-ovulate.

The type of this species was collected by John J. Wurdack and L. S. Adderley (no. 42861), who say that the plant was locally abundant in the Sabana Caname, on the left bank of the Cano Caname, Río Atabapo, below Guarinumo, at an elevation of 125 meters, Amazonas, Venezuela, on June 8, 1959, and is deposited in the Britton Herbarium at the New York Botanical Garden. The plant has very great habital resemblance to Syngonanthus savannarum Moldenke, but may be distinguished at once superficially by its aristate involuclral bractlets.

MATERIALS TOWARD A MONOGRAPH OF THE GENUS AVICENNIA. I

Harold N. Moldenke

This is the twenty-second in my series of works of monographic nature on the genera of Verbenaceae, Avicenniaceae, Stilbaceae, and Symphoremaceae. Previous genera so treated have all been verbenaceous: Aegiphila Jacq., Amasonia L. f., Baillonia Bocq., Bouchea Cham., Casselia Nees & Mart., Castelia Cav., Chascanum E. Mey., Citharexylum B. Juss., Cornutia Plum., Parodianthus Troncoso, Petitia Jacq., Petrea Houst., Priva Adans., Pseudocarpidium Millsp., Recordia Moldenke, Rehdera Moldenke, Rhaphithamnus Miers, Svensonia Moldenke, Tectona L. f., Vitex Tourn., and the New World and cultivated members of Callicarpa L. The present work is my first in the Avicenniaceae, and, since the family is monogeneric, completes the family.

Full explanation of the abbreviations employed herein for the names of the 254 herbaria whose material was examined in the preparation of this work will be found in Phytologia 5: 154-159 (1955) and 6: 242 (1958) with the following additions:

Bd = Herbarium Bradeanum, Rio de Janeiro, Brazil

Bs = Basler Botanische Gesellschaft, Basel, Switzerland

G1 = Museu Goeldi, Belém, Pará, Brazil